AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-4. (Cancelled).

5. (Currently amended) A method for manufacturing a semiconductor device for use in a memory cell, comprising the steps of:

a) preparing an active matrix having at least one transistor, a plurality of**[[.]]** conductive plugs electrically connected to the at least one transistor and an insulating layer laterally between adjacent conductive plugs;

b) forming a conductive layer over each conductive plug to form a bottom electrode;

c) forming a $(Ta_2O_5)_x(TiO_2)_y$ composite layer over the bottom electrodes, x and y representing a respective molar fraction;

d) forming a dielectric layer over the $(Ta_2O_5)_x(TiO_2)_y$ composite layer; and

e) patterning the dielectric layer and the $(Ta_2O_5)_x(TiO_2)_y$ composite layer into a preset configuration.

6. (Previously presented) The method of claim 5, wherein the bottom electrode includes a material selected from a group consisting of a poly-Si, W, WN, WSi_x, TiN, Pt, Ru and Ir.

7. (Currently amended) The method of claim 5, wherein the step of forming a $(Ta_2O_5)_x(TiO_2)_y$ composite layer includes the steps of:

(1) ~~alternatively~~ **alternately** introducing first and second source gases into a reaction chamber, thereby forming a Ta_2O_5 thin layer;

(2) alternately introducing third and fourth source gases into the reaction chamber, thereby forming a TiO_2 thin layer over the Ta_2O_5 thin layer;

(3) repeating the steps (1) and (2), thereby obtaining stacked Ta_2O_5 and TiO_2 thin layers; and

(4) heating the stacked thin layers at a temperature ranging from approximately 400 °C to approximately 550 °C, thereby obtaining the $(Ta_2O_5)_x(TiO_2)_y$ composite layer.

8. (Previously presented) The method of claim 7, wherein the first source gas includes a pentaethoxytantalum ($Ta(C_2H_5O)_5$) gas, and the second source gas includes a gas selected from a group consisting of H_2O, O_2, N_2O and alcohol (C_xH_yOH) gases.

9. (Original) The method of claim 7, wherein the reaction chamber is kept at a temperature ranging from approximately 250 °C to approximately 350 °C.

10. (Previously presented) The method of claim 7, wherein a thickness of the Ta_2O_5 thin layer is less than or equal to 10 Å.

11. (Currently amended) The method of claim 7, wherein the third source gas includes [[$TiC1_4$]] **$TiCl_4$**, and the fourth source gas includes a gas selected from a group

consisting of H_2O, O_2 and N_2O gases.

12. (Currently amended) The method of claim 7, wherein a thickness of the TiO_2 thin layer**[[,]]** is less than or equal to 5 Å.

13. (Original) The method of claim 7, wherein the $(Ta_2O_5)_x(TiO_2)_y$ composite layer has a thickness ranging from approximately 100 Å to approximately 200 Å.

14. (Original) The method of claim 7, wherein process cycles of steps (1) and (2) are controlled in such a way that x=0.92 and y=0.08.

15. (Original) The method of claim 7, further comprising introducing a first inert gas into the reaction chamber for 0.1-10 seconds to remove the first and second source gases which remain in the reaction chamber, after step (1).

16. (Currently amended) The method of claim 15, further comprising introducing a second inert gas into the reaction chamber for 0.1-10 seconds to remove the **[[first]]** **third** and ~~second~~ **fourth** source gases and the first inert gas ~~remain~~ **remaining** in the reaction chamber, after step (2).

17. (Cancelled).

18. (Currently amended) The method of claim **[[17]]** **7**, further comprising heating treating the $(Ta_2O_5)_x(TiO_2)_y$ composite layer and the dielectric layer in a furnace at a temperature ranging from approximately 600 °C to approximately 850 °C in the presence of N_2O.

19. (Currently amended) The method of claim **[[17]]** **7**, further comprising forming a TiN layer over the dielectric layer.

20. (Currently amended) The method of claim 7, wherein the first source gas includes tantalum chloride (**[[**TaC1$_5$**]]** **$TaCl_5$**), and the second source gas includes a gas selected from a group consisting of H_2O, O_2, N_2O and C_xH_yOH gases.

21. (Currently amended) A method for manufacturing a semiconductor device for use in a memory cell, comprising the steps of:

preparing an active matrix having at least one transistor, a plurality of conductive plugs electrically connected to the at least one transistor and an insulating layer between each conductive plug;

forming a conductive layer coupled to each conductive plug to form a first electrode;

forming a $(Ta_2O_5)_x(TiO_2)_y$ composite layer adjacent to the first electrode, where x and y each represent a respective molar ~~function~~ **fraction**;

forming a dielectric layer adjacent to the $(Ta_2O_5)_x(TiO_2)_y$ composite layer; and

patterning the dielectric layer and the $(Ta_2O_5)_x(TiO_2)_y$ composite layer according to a ~~present~~ **preset** configuration.

22. (Currently amended) The method of claim 21, wherein the step of forming the $(Ta_2O_5)_x(TiO_2)_y$ composite layer includes the steps of:

~~alternatively~~ **alternately** introducing first and second source gases into a reaction chamber to form a Ta_2O_5 layer;

~~alternatively~~ **alternately** introducing third and fourth source gases into the reaction chamber to form a TiO_2 layer adjacent to the Ta_2O_5 layer; and

heating the TiO_2 layer and the Ta_2O_5 layer from a temperature of approximately 400 °C to a temperature of approximately 550 °C to form the $(Ta_2O_5)_x(TiO_2)_y$ composite layer.

23. (Cancelled).